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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Stephen G. Perlman

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THE LAW OFFICES OF BRADLEY J. BEREZNAK
800 WEST EL CAMINO REAL
SUITE 180
MOUNTAIN VIEW, CA 94040

EXAMINER

MILLS, DONALD L

ART UNIT

PAPER NUMBER

2462

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/608,594	Applicant(s) PERLMAN, STEPHEN G.	
	Examiner DONALD L. MILLS	Art Unit 2462	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 50-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 50-69 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 45-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lau et al. (US 6,690,657), hereinafter referred to as Lau, in view of Oura (US 6,115,369).

Regarding claim 45, 47, 50, 53, 54, 56, 57, 60-62, 64, and 67, Lau discloses a multi-channel distributed wireless repeater network, which comprises:

A first transceiver operable wirelessly receive a digital data stream transmitted in a pipeline of packets on a first channel of a first frequency band, each packet being transmitted at a data rate of 11 Mbps or greater, a second transceiver connected to the first transceiver via a wired link, the second transceiver operable to wirelessly transmit the data stream in the pipeline of packets at the data rate on either the first channel or a second channel of the first frequency band (Note, the Examiner interprets the claims as relating to a system in which data packets are wirelessly repeated from one access point to another access point via the same frequency band but on a different corresponding channel. Referring to Figures 4 and 13, base station **60** (wireless router) transmits, via a first transceiver **62** via CH1, to repeater **78** (comprising a first transceiver and second transceiver, with corresponding ability to transmit and receive independently according to frequency programmability), which forwards the data via CH2 to

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T/R module **80**. See column 5, lines 39-46. Referring to Figure 3, the low-power transceivers can be used to create a robust network that can extend beyond each transceiver's useful range. In this manner, the data is transmitted at a data rate on a channel that does not interfere with any device simultaneously transmitting within an interference range of the base station. Using channel-shifting RF repeaters, thereby preferably providing more uniform radio coverage within a desired coverage, via RF networks comprising the 802.11 format, IEEE 802.11 standard for data packet transmission, such as voice, data, or video media content as commonly transmitted over a WLAN (broadband wireless network which includes transmission of voice, data, and video content), and 802.11 format is capable of transmission rates in excess of 11 Mbps (2.4 GHz). See column 2, lines 8-24; column 4, lines 41-45; and column 10, lines 38-39. When a given transmitter is transmitting, repeaters in range of that transmitter receives the signal, channel-shifts the signal, and retransmits it. If the network is large enough, other repeaters may pick up the channel-shifted signal from the first repeaters, shift it to yet another channel, and retransmit it again. See column 4, lines 6-27. The system is suitable for household use, office use, and other environments with similarly limited network extent. See column 4, lines 49-51. Referring to Figure 3, as seen in a building floor plan that would correspond to a home office, the repeaters are within the maximum bandwidth transmission range per the requisite wireless transmission standard. More specifically, referring to Figures 3, 6, and 7, the wireless local area network **58** comprises multiple transmit/receive modules **62, 64, 70, 74, and 80** (media receiver with a display device), a base station **60**, and repeaters **68** and **78** (plurality of repeaters). See column 5, lines 10-15. Repeaters **68** and **78** (programmable) can receive signals on both **CH1** and **CH2**, and have the capability to retransmit a signal received on **CH1** on **CH2**, and a signal

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received on **CH2** on **CH3** (second frequency channel). See column 5, lines 59-65. Also, referring to Figure 13, the substantially non-interfering channels utilizes time slots in sequential order, each logically equivalent according to TDM traditional protocol. See column 7, lines 29-36. In addition, in some networks, it may be desirable to have a repeater “re-use” a channel, if that channel does not overlap coverage areas with the original user of CH1 and its recipients. See column 6, lines 25-28.)

Lau does not disclose receiving the data in the first frequency band during odd time intervals and transmitting on the first frequency channel during even time intervals, the second transceiver not transmitting during the odd time intervals.

The Examiner interprets the Applicant’s claimed invention as a method or device comprising a first access point, which receives on a first time slot and transmits on a second time slot, and a second access point, which receives on a second time slot and transmits on a first time slot. Oura teaches a wireless repeating method and wireless repeating unit, which comprises a repeater (first access point) and base station a (second access point) operating on the same frequency channel (Referring to Figure 4). The Time Division Duplex communication system, comprises a frame divided into times slot halves comprising SFa (odd time interval) and SFb (even time interval) (Referring to Figure 4). The repeater (first access point) receives transmission during SFa (odd time interval) and repeats transmission during SFb (even time interval), while base station A (second access point) transmits data during SFa (odd time interval) and receives data during SFb (even time interval) (Referring to Figure 4, see column 6 lines 1-33 and 38-58). Oura teaches wireless repeating across time slots utilizing the same

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frequency, which is equivalent to the Applicant's instant invention that wireless repeats calls across time slots utilizing the same frequency.

The claim is rejected under 35 U.S.C. 103 as being unpatentable over Lau in view of Oura. Lau teaches a multi-channel distributed wireless repeater network, which wireless repeats transmissions on separate channels to avoid possible interference from neighboring wireless repeaters. Oura teaches a wireless repeating system, which wireless repeats transmissions on the same channel on separate time slots to avoid possible interference from neighboring devices. Because both Lau and Oura teach methods and devices for wirelessly repeating transmission, it would have been obvious to one of ordinary skill in the art to substitute wirelessly repeating transmissions across time slots for wirelessly repeating transmissions across channels to achieve the predictable result of expanding network coverage for wireless devices utilizing wireless repeaters. Both Lau and Oura accomplish the same goal of expanding network coverage for a wireless device, albeit through different methods. The instant invention is merely a combination of a well-known IEEE 802.11 network with the well-known process of data synchronization via TDMA, as taught by Lau and Oura, respectively. Therefore, the claims are properly rejected under 35 U.S.C. 103 as being unpatentable over Lau in view of Oura.

Regarding claims 46, 48, 66, and 68, Lau discloses wherein the first and second transceivers each include a transmitter and a receiver (Referring to Figure 4, base station **60** (wireless router) transmits, via a first transceiver **62** via CH1, to repeater **78** (comprising a first transceiver and second transceiver, with corresponding ability to transmit and receive independently according to frequency programmability), which forwards the data via CH2 to T/R module **80**. See column 5, lines 39-46.)

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Regarding claims 49 and 69, Lau discloses wherein the first and second frequency channels are either within a 5Ghz or a 2.4GHz frequency band (Referring to Figures 3 and 4, Using channel-shifting RF repeaters, thereby preferably providing more uniform radio coverage within a desired coverage, via RF networks comprising the 802.11 format, IEEE 802.11 standard for data packet transmission, such as voice, data, or video media content as commonly transmitted over a WLAN (broadband wireless network which includes transmission of voice, data, and video content), and BluetoothTM format which is capable of transmission rates in excess of 11 Mbps (2.4 GHz). See column 2, lines 8-24; column 4, lines 41-45; and column 10, lines 38-39.)

Regarding claims 51, 58, 59, and 65, Lau discloses a destination device that receives the transmitted data (Referring to Figures 3 and 4, the RF networks comprising the 802.11 format, IEEE 802.11 standard for data packet transmission, such as voice, data, or video media content as commonly transmitted over a WLAN to mobile destination devices. See column 2, lines 8-24; column 4, lines 41-45; and column 10, lines 38-39.)

Regarding claims 52 and 63, Lau discloses wherein the source device is coupled to a broadband data network (Referring to Figures 3 and 4, the RF networks comprising the 802.11 format, IEEE 802.11 standard for data packet transmission, such as voice, data, or video media content as commonly transmitted over a WLAN (broadband wireless network which includes transmission of voice, data, and video content), and 802.11 format which is capable of transmission rates in excess of 11 Mbps (2.4 GHz). See column 2, lines 8-24; column 4, lines 41-45; and column 10, lines 38-39.)

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Regarding claim 55, Lau discloses wherein the data comprises video media content (Referring to Figures 3 and 4, the RF repeaters comprise the 802.11 format, IEEE 802.11 standard for data packet transmission, such as voice, data, or video media content as commonly transmitted over a WLAN (broadband wireless network which includes transmission of voice, data, and video content), and 802.11 format which is capable of transmission rates in excess of 11 Mbps (2.4 GHz). See column 2, lines 8-24; column 4, lines 41-45; and column 10, lines 38-39.)

Response to Arguments

3. Applicant's arguments filed 01 March 2010 have been fully considered but they are not persuasive.

Rejection Under 35 USC 103

On pages 8-10 of the remarks, regarding independent claims 45, 51, 55, and 62, the Applicant argues neither Lau nor Oura teach the claimed invention. The Examiner respectfully disagrees. First, the Applicant argues that Lau discloses that his repeaters are transmitting in the same time interval on the same channel. The Examiner respectfully disagrees. Referring to Figures 7 and 13 and column 7, lines 29-35, Lau discloses: "a plan that provides substantially non-interfering channels via time-division multiplexing. CH1 is active in timeslot 0. Repeater receiving this signal repeat it on CH2 during timeslot 1. Repeaters receiving the second signal repeat it during timeslot 2. At timeslot 3, a T/R module can transmit a new packet of data on CH1, and the process repeats." The Applicant goes on to argue: "a key utility of the claimed subject matter is overcoming the low reliability, low bandwidth, inefficient channel use that

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arises under the prior art.” However, the Applicant is reminded that it is not the intended effect of the instant invention which is at issue, but the claim language. The claim language does not reflect a “chain of repeaters” but simply a source device and a mere singular repeater. In this respect, Lau is consistent with the claimed “singular repeater”. At most, as reflected in the dependent claims, only a second repeater is required and, still, under Lau the claim limitation is taught and consistent with the claim interpretation. The most important issue at hand is the claim language, not the intended effect of the instant invention.

Second, the Applicant argues Lau teaches away from the approach taken by the Applicant. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Here, the combination as a whole must be considered; furthermore, Lau recognized that the bandwidth limitations are inadequate for multimedia and structures can waste bandwidth because the master must use an entire time slot each time it gives permission for transmission (See column 3, lines 20-28). Therefore, one of ordinary skill in the art at the time of the invention would have been motivated to look at other wireless repeater systems to overcome such deficiencies. Third, the Applicant argues *Oura* is non-analogous art. The Examiner respectfully disagrees. It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, similar to Lau, *Oura* is also related to the field of

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wireless re-transmission. The Applicant is reminded that the claimed invention merely reflects the combination of a known system with known techniques. The Examiner suggests the Applicant amend the claims to more closely reflect the instant invention.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DONALD L. MILLS whose telephone number is (571)272-3094. The examiner can normally be reached on 9:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Donald L Mills/
Primary Examiner, Art Unit 2462